

[54] **WAVERING CONDUCTOR LOOPS FOR MAGNETIC DOMAIN MEMORIES**

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[56] **References Cited**

PUBLICATIONS

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[57] **ABSTRACT**

Disclosed are magnetic domain (bubble) memory arrays and correlator type memory arrays in uniaxially anisotropic crystals which utilize wavering loop conductor

patterns at each bit location defining three contiguous magnetic domain retaining regions. On current reversal a bubble in the center loop of a wavering loop pattern will be equally attracted to either of the outside loops. Decision control is provided by a second array of two conductor lines interposed between the respective domain retaining regions. These control conductors establish an aiding or inhibiting magnetic field when current flows through them. In an alternate design a correlator function is obtained by using bubbles retained in previously disclosed bistable loops as memory elements and interrogating them by means of auxiliary bubbles driven by adjacent wavering loops. In operation, the bistable conductor loops defining the two memory states are placed on either side of a crystalline platelet to jointly define two domain retaining memory regions. The presence of a bubble at either memory site is sensed by its repulsion of an adjacent interrogating bubble controlled by a wavering loop pattern. Magnetoresistive sensors are placed in sensing relationship to one of the three regions defined by the wavering loop conductor pattern.

13 Claims, 12 Drawing Figures

